

SENSOR ALIGNMENT METHOD FOR 3D MEASUREMENT SYSTEMS

Abstract of Disclosure

A method of set up and alignment of a structured light system for light gauge testing of an object (A). An initial alignment is made of the system with a test specimen mounted in a fixture. Light stripes (L₁–L_n) generated by the structured light system are projected onto the part and images of the reflections are captured by cameras and evaluated to determine the characteristics of each stripe over a section of the specimen. The characteristics checked include the number of pixels extending across the width of a line, centeredness of the line, and the distribution of light intensity. If the former two features are not within predetermined limits, or if intensity distribution is not Gaussian, the test setup is adjusted and the process repeated. An imaging system used in the test is also checked to verify the quality of the images captured and processed. If necessary, viewing windows, polarizers, and other electrical components are evaluated to insure the imaging system is properly focused. The temperature and humidity of the test facility are also controlled to provide an optimal testing environment in which performance of the components is not effected by extremes of either.

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